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(54) **Position determination**

(57) Dead reckoning is used to solve a location problem when a user is out of range of GPS coverage. A starting position is determined by tracking movements from a first position where GPS coverage is not available to a second position where GPS coverage is available. The starting position is then determined by backtracking from this known position.

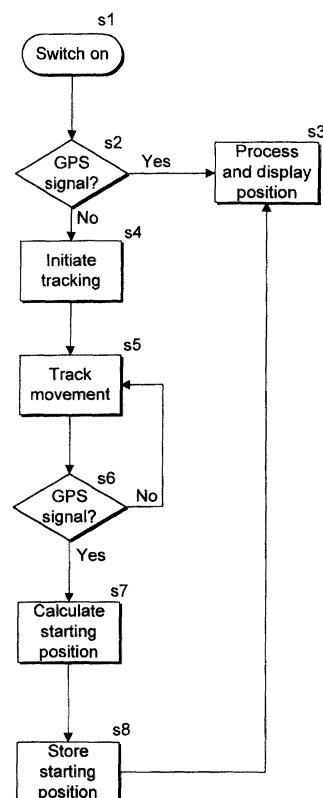


Figure 3



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 01 30 8596

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	US 5 745 868 A (GEIER GEORGE J) 28 April 1998 (1998-04-28) * column 1, line 25-32 * * column 2, line 23-33; figure 1 * * column 5, line 63 - column 6, line 36 * ---	1-10	G01S5/14
A,D	US 5 257 195 A (HIRATA SEIICHIRO) 26 October 1993 (1993-10-26) * abstract; figure 1 * ---	1-10	
A	US 5 644 317 A (GEREN BRUCE EDWARD ET AL) 1 July 1997 (1997-07-01) * column 2, line 13 - column 3, line 19; figures 1-5 * ---	1-10	
A	US 5 890 090 A (NELSON JR ROBERT LEONARD) 30 March 1999 (1999-03-30) * column 2, line 1-13 * ---	1-10	
A	US 6 091 359 A (GEIER GEORGE JEFFREY) 18 July 2000 (2000-07-18) * column 2, line 24-57 * -----	1-10	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.7) G01S
Place of search MUNICH		Date of completion of the search 5 December 2002	Examiner Fanjul Caudevilla, J
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 01 30 8596

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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05-12-2002

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5745868	A	28-04-1998	NONE	

US 5257195	A	26-10-1993	JP 4120486 A	21-04-1992
			JP 2098153 C	02-10-1996
			JP 4120417 A	21-04-1992
			JP 8007073 B	29-01-1996
			DE 4130367 A1	19-03-1992
			KR 9409235 B1	01-10-1994

US 5644317	A	01-07-1997	NONE	

US 5890090	A	30-03-1999	NONE	

US 6091359	A	18-07-2000	EP 0931269 A1	28-07-1999
			WO 9904280 A1	28-01-1999
